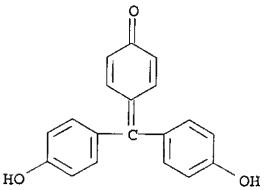
(of aluminon and crystal violet, effect of manganese dioxide on)
IT 1313-13-9, uses and miscellaneous
RL: PRP (Properties)
(effect of, on **electrochem.** oxidation of aluminon and crystal violet)
IT 548-62-9 **569-58-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**electrochem.** oxidation of, effect of manganese dioxide on)

L16 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:28334 CAPLUS
DOCUMENT NUMBER: 102:28334
TITLE: **Electrochemical** reactivity of aromatic compounds for use in lithium cells
AUTHOR(S): Tobishima, Shinichi; Yamaki, Junichi; Yamaji, Akihiko
CORPORATE SOURCE: Ibaraki Electr. Commun. Lab., Nippon Telegr. and Teleph. Public Corp., Tokai, 319-11, Japan
SOURCE: Journal of Applied Electrochemistry (1984), 14(6), 721-9
CODEN: JAELBJ; ISSN: 0021-891X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The **electrochem.** reactivity of aromatic compds. coupled with Li in LiClO4-propylene carbonate was studied. Simple aromatic compds., Ph3CH compds., and quinone imine dyes were used. Discharge results for aromatic cathode-Li cells indicated that the relation between discharge voltage measured and reduction potential reported was approx. linear, which suggested that the discharge products were ion complexes. Also, the discharge voltage increased with an increase of their electron-accepting groups and with a decrease of the electron-donating strength of alkyl groups in their amino end groups. Among these compds., rosaniline derivs., bromo-substituted phenol red and thiazine dyes showed discharge voltages of 2.5 V. Methylene blue (MB) [61-73-4] showed the largest energy d., 363 W-h/kg. Details of MB charge-discharge behavior were examined The dynamic charge-discharge tests and cyclic voltammetry results suggested that the MB-Li cell could be cycled at ≤2 electrons/mol of MB depth. A direct reaction between the Li anode and dissolved MB is small, as indicated by the Li+ conductive film formation on the Li anode.
IT **603-45-2**
RL: USES (Uses)
(cathode active material, lithium **battery**, performance of)
RN 603-45-2 CAPLUS
CN 2,5-Cyclohexadien-1-one, 4-[bis(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



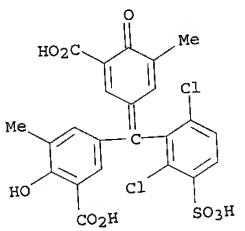
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 25, 41, 72
ST lithium **battery** arom compd; rosaniline deriv lithium **battery**; bromophenol red lithium **battery**; thiazine dye lithium **battery**; methylene blue lithium **battery**; cathode arom compd lithium **battery**; triphenylmethane compd lithium **battery**; quinone imine dye compd **battery**
IT Cathodes
(**battery**, aromatic compound active material-containing, performance of lithium-)
IT 61-73-4 76-59-5 76-60-8 85-01-8, uses and miscellaneous 91-20-3, uses and miscellaneous 92-24-0 115-39-9 120-12-7, uses and miscellaneous 129-00-0, uses and miscellaneous 143-74-8 198-55-0 548-62-9 553-24-2 581-64-6 596-27-0 **603-45-2** 632-99-5 633-03-4 1733-12-6 1787-57-1 2381-85-3 2679-01-8 6104-59-2 12768-78-4 37251-80-2
RL: USES (Uses)
(cathode active material, lithium **battery**, performance of)

L16 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1983:512850 CAPLUS
DOCUMENT NUMBER: 99:112850
TITLE: The reduction mechanism at the mercury electrode in neutral and alkaline mediums of an acid hydroxy triphenylmethane dye: Chromazurol S
AUTHOR(S): Boodts, J. F. C.; Rudnytskij, R.; Romero, J. R.
CORPORATE SOURCE: Fac. Filosofia, Cienc. Letras, Univ. Sao Paulo, Ribeirao Preto, 14100, Brazil
SOURCE: Journal of Electroanalytical Chemistry and Interfacial Electrochemistry (1983), 149(1-2), 139-52
CODEN: JEIEBC; ISSN: 0022-0728
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The reduction mechanism at a Hg electrode of Chromazurol S [**1667-99-8**], in neutral,weakly and strongly alkaline supporting electrolytes, was investigated by several **electrochem.** techniques. The radical, formed after the 1st one-electron uptake, dimerizes. The results of the cyclic voltammetric investigation demonstrated the intrinsic quasi-reversible nature of the electron transfer. The apparent irreversible polarog. behavior of the 2nd wave is a result of the

existence of a fast protonation following the 2nd electron transfer. Adsorption of the Ox and Red form of Chromazurol S as well as of the radical formed was demonstrated by a.c. polarog. measurements. On the basis of the exptl. data a reduction mechanism is proposed.

IT **1667-99-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, **electrochem.**, on mercury in weakly and strongly alkaline solns.)

RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 72-2 (Electrochemistry)
Section cross-reference(s): 22, 41
ST Chromazurol S electroredn mercury; dimerization Chromazurol S electroredn
IT Adsorption
(in Chromazurol S **electrochem.** reduction on mercury)
IT Reduction, **electrochemical**
(of Chromazurol S, on mercury in neutral and alkaline solns.)
IT Reduction, **electrochemical**
(of Chromazurol S, on mercury in neutral and alkaline solns., dimerization in relation to)
IT Dyes
(triphenylmethane, reduction of, **electrochem.**, on mercury in neutral and alkaline solution)
IT Dimerization
Kinetics of dimerization
(**electrochem.**, reductive, of Chromazurol S on mercury in neutral and alkaline solns.)
IT 87046-87-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(**electrochem.** formation and dimerization of)
IT 7439-97-6, uses and miscellaneous

RL: USES (Uses)
(electrodes, adsorption by, in Chromazurol S **electrochem.** reduction in neutral and alkaline solution)

IT 87046-88-6P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, **electrochem.** reductive)

IT **1667-99-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, **electrochem.**, on mercury in weakly and strongly alkaline solns.)

L16 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1981:628002 CAPLUS
DOCUMENT NUMBER.: 95:228002
TITLE: Lithium **battery**
PATENT ASSIGNEE(S): Nippon Telegraph and Telephone Public Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

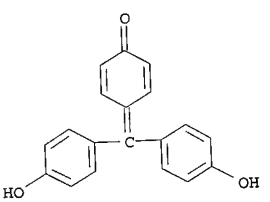
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56103871	A2	19810819	JP 1980-5769	19800123
JP 63013308	B4	19880324		

PRIORITY APPLN. INFO.: JP 1980-5769 19800123

AB In a **battery** employing a triphenylmethane dye as the cathode active material and Li as the anode active material, the electrolyte is chemical inert towards the cathode active material and Li and Li+ is transported during the **electrochem.** reaction.

IT **603-45-2**
RL: DEV (Device component use); USES (Uses)
(cathodes containing, for lithium **batteries**)

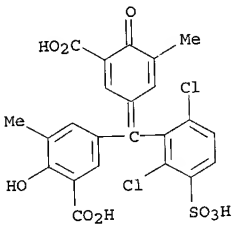
RN 603-45-2 CAPLUS
CN 2,5-Cyclohexadien-1-one, 4-[bis(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



IC H01M004-60

CC 72-2 (Electrochemistry)
ST lithium anode triphenylmethane dye cathode; **battery** lithium triphenylmethane dye
IT Carbon black, uses and miscellaneous
RL: DEV (Device component use); USES (Uses)
(cathodes containing, for lithium **batteries**)
IT **Batteries**, primary
(lithium-triphenylmethane dyes)
IT Dyes
(triphenylmethane, cathodes containing, for lithium **batteries**)
IT 7439-93-2, uses and miscellaneous
RL: USES (Uses)
(anodes, in primary **batteries** with triphenylmethane dyes)
IT 548-62-9 569-61-9 **603-45-2** 3571-36-6 12768-78-4
79990-81-1
RL: DEV (Device component use); USES (Uses)
(cathodes containing, for lithium **batteries**)

L16 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1981:577670 CAPLUS
DOCUMENT NUMBER: 95:177670
TITLE: An **electrochemical** and spectrophotometric investigation of the reduction mechanism of chromazurol S
AUTHOR(S): Boodts, Julien F. C.; Romero, Jose R.; Rudnytskij, Roberto
CORPORATE SOURCE: Fac. Fylosophy, Sci. Letters, Ribeirao Preto-Sao Paulo State Univ., Ribeirao Preto, 14100, Brazil
SOURCE: An. Simp. Bras. Eletroquim. Eletroanal., 2nd (1980), 21-8. Editor(s): Rabockai, Tibor; Neves, Eduardo Almeida. Inst. Quim. Univ. Sao Paulo: Sao Paulo, Brazil.
CODEN: 46KNAF
DOCUMENT TYPE: Conference
LANGUAGE: English
AB **Electrochem.** and spectrophotometric measurements were used in the title study of the reduction of this triphenylmethane dye. The chromazurol S (I) [**1667-99-8**] was purified by known procedures and the purity determined potentiometrically. The d.c. polarograms showed 2 waves for the reduction of I and the possibility of a 3rd much smaller wave was conjectured. In a.c. polarog. only 1 distinct wave with a much smaller 2nd wave was found. A reversible electron transfer was indicated. A reduction mechanism is proposed.
IT **1667-99-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, **electrochem.**)
RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 72-11 (Electrochemistry)
Section cross-reference(s): 22
ST chromazurol S **electrochem** redn
IT Reduction, **electrochemical**
(of chromazurol S)
IT **1667-99-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, **electrochem.**)

=>

=> file reg
FILE 'REGISTRY' ENTERED AT 12:23:44 ON 10 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2
DICTIONARY FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> file caplus
FILE 'CAPLUS' ENTERED AT 12:23:47 ON 10 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 10 Jun 2004 VOL 140 ISS 24
FILE LAST UPDATED: 9 Jun 2004 (20040609/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d que l16
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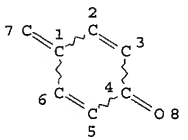

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DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

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L5              SEL  PLU=ON  L2 100001-116972 RN :    3551 TERMS
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L7  (     31143)SEA FILE=REGISTRY ABB=ON  PLU=ON  L4
L8  (      4248)SEA FILE=REGISTRY ABB=ON  PLU=ON  L5
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                ? OR GALVANIC? OR DRY CELL)
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=> d ti 1-23 l16

L16 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI On the Mechanism of Onset of Polarographic Catalytic Hydrogen Currents in Solutions of Ruthenium (IV)

L16 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Electrolyte solution and **battery**

L16 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Dye-adsorbed semiconductor, photoelectric conversion device using it, and solar cell using the device

L16 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI A study on water treatment induced by plasma with contact glow discharge electrolysis

L16 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants

L16 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Microanalysis of Al in Pb-Sn-Ca-Al alloy

L16 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Determination of europium(II) in the presence of Chrome Azurol S by alternating-current polarography

L16 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI The use of triarylmethane dyes on aluminum

L16 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Secondary **batteries** with nonaqueous electrolytes

L16 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI New nanocomposites of polypyrrole including γ-Fe2O3 particles: electrical and magnetic characterizations

L16 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Studies on **electrochemical** behavior of some light lanthanide ions in nonaqueous solution, flow injection determination and photochemical characterization of heavy metal ion chelate eight coordinated complexes. (Part 2). Determination of some light lanthanide ions by flow injection analysis using Chrome Azurol S in the presence of surfactant

L16 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Determination of traces of iron by thin-layer spectroelectrochemistry

L16 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Ion transfer of Chrome Azurol S across the liquid-liquid interface

L16 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Ion transfer of dyes across the liquid-liquid interface

L16 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Cyclic voltammetry of dye-modified BLMs

L16 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fountain pens for multicolor writings

L16 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Electrochemical** oxidation of coloring impurities in an aqueous suspension of manganese dioxide

L16 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Polarography of Chrome Azurol S

L16 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN

TI Electrooxidation of crystal violet and aluminon in a manganese dioxide aqueous suspension

L16 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Electrochemical** reactivity of aromatic compounds for use in lithium cells

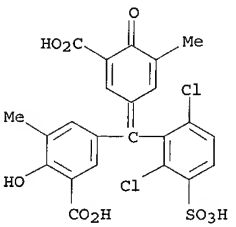
L16 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI The reduction mechanism at the mercury electrode in neutral and alkaline mediums of an acid hydroxy triphenylmethane dye: Chromazurol S

L16 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI Lithium **battery**

L16 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
TI An **electrochemical** and spectrophotometric investigation of the reduction mechanism of chromazurol S

=> d ibib abs hitstr ind total l16

L16 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:967349 CAPLUS
DOCUMENT NUMBER: 138:345240
TITLE: On the Mechanism of Onset of Polarographic Catalytic Hydrogen Currents in Solutions of Ruthenium (IV)
AUTHOR(S): Vrublevs'ka, T. Ya.; Tymoshuk, O. S.
CORPORATE SOURCE: Franko Lviv National University, Lvov, Ukraine
SOURCE: Materials Science (New York, NY, United States)(Translation of Fiziko-Khimichna Mekhanika Materialiv) (2002), 38(3), 399-406
CODEN: MSCIEQ; ISSN: 1068-820X
PUBLISHER: Kluwer Academic/Consultants Bureau
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Using the oscillovoltammetric method, we study the nature of the current and the character of reduction of aqueous ruthenium solns. in the presence of organic addends and without them. The process of reduction of Ru(IV) solns. exhibits an irreversible character and is preceded by a chemical reaction. The **electrochem.** reaction proceeds on the surface of the dropping mercury electrode. The catalytic action of organic reagents is not connected with the regeneration of depolarizer. Finally, we propose a scheme for the mechanism of onset of voltammetric catalytic hydrogen currents.
IT **1667-99-8**, Chromeazurol S
RL: NUU (Other use, unclassified); USES (Uses)
(of electroredn. of aqueous ruthenium(IV) solns. in presence of organic addends and without them)
RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 72-2 (Electrochemistry)
Section cross-reference(s): 29, 78
ST electroredn ruthenium IV hydrogen current org addends
IT Reaction mechanism
(mechanism of onset of polarog. catalytic hydrogen currents in solns. of ruthenium (IV))
IT Voltammetry
(of Ru(IV) in NaClO4 solution with mercury electrode)
IT Reduction, **electrochemical**
(of aqueous ruthenium solns. in presence of organic addends and without them)
IT Reduction potential
(of aqueous ruthenium(IV) solns. in presence of organic addends and without them)
IT Polarography
(of electroredn. of aqueous ruthenium solns. in presence of organic addends and without them)
IT Current density
(of electroredn. of aqueous ruthenium(IV) solns. in presence of organic addends and without them)
IT Transport properties
(of ions during electroredn. of ruthenium(IV) in presence of organic addends and without them in aqueous solns.)
IT 22541-58-8, Ru 4+, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electroredn. of aqueous ruthenium solns. in presence of organic addends and without them)
IT 127-09-3, Sodium acetate 7631-99-4, Sodium nitrate, uses 7647-14-5, Sodium chloride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(electroredn. of ruthenium(IV) in presence of organic addends and without them in aqueous solns. containing)

IT 1333-74-0, Hydrogen, processes
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(mechanism of onset of polarog. catalytic hydrogen currents in solns. of ruthenium (IV))
IT 115-41-3, Pyrocatechin violet 1611-35-4, Xylenol orange **1667-99-8**, Chromeazurol S 79920-73-3, Eriochromecyanine
RL: NUU (Other use, unclassified); USES (Uses)
(of electroredn. of aqueous ruthenium(IV) solns. in presence of organic addends and without them)
IT 7647-01-0, Hydrochloric acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(voltammetry of Ru(IV) in HCl solution with mercury electrode)
IT 7601-89-0, Sodium perchlorate
RL: NUU (Other use, unclassified); USES (Uses)
(voltammetry of Ru(IV) in NaClO4 solution with mercury electrode)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

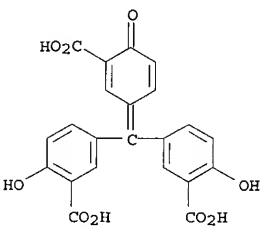
L16 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:735453 CAPLUS
DOCUMENT NUMBER: 137:281824
TITLE: Electrolyte solution and **battery**
INVENTOR(S): Adachi, Momoe
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002280064	A2	20020927	JP 2001-76726	20010316

PRIORITY APPLN. INFO.: JP 2001-76726 20010316

AB The electrolyte solution contains a Al compound and/or an Al adsorbing compound Preferably, the Al compound is Li aluminate, LiAlH4, Al acetylacetonate, and/or their derivs.; and the Al-adsorbing compound is aluminon and/or its derivative The electrolyte solution also contains a Li salt and a solvent mixture
The mass of the Al and Al-adsorbing compds. are preferably 0.01-10 % of the solvent mixture The **battery** has a light metal intercalating and depositing anode and the electrolyte solution
IT **569-58-4**, Aluminon
RL: DEV (Device component use); USES (Uses)
(Li salt electrolyte solns. containing Al compds. for secondary lithium **batteries**)
RN 569-58-4 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy-, triammonium salt (9CI) (CA

INDEX NAME)



●3 NH_3

IC ICM H01M010-40
ICS H01M004-02
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST Li secondary **battery** electrolyte Al compd additive
IT **Battery** electrolytes
(Li salt electrolyte solns. containing Al compds. for secondary lithium **batteries**)
IT 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate **569-58-4**, Aluminon 13963-57-0, Aluminum acetylacetonate 14283-07-9, Lithium tetrafluoroborate 16853-85-3, Lithium aluminum hydride 21324-40-3, Lithium hexafluorophosphate 37220-89-6, Lithium aluminate 90076-65-6, Lithium bis(trifluoromethanesulfonylimide)
RL: DEV (Device component use); USES (Uses)
(Li salt electrolyte solns. containing Al compds. for secondary lithium **batteries**)

L16 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:193351 CAPLUS
DOCUMENT NUMBER: 136:250257
TITLE: Dye-adsorbed semiconductor, photoelectric conversion device using it, and solar cell using the device
INVENTOR(S): Okubo, Kimihiko; Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Co., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

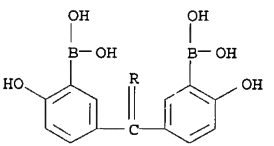
JP 2002075475 A2 20020315 JP 2000-257211 20000828
PRIORITY APPLN. INFO.: JP 2000-257211 20000828
OTHER SOURCE(S): MARPAT 136:250257

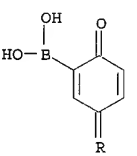
AB The semiconductor adsorbs a dye D[LB(ORa)n]k (D = dye residue; k = 1-10; L = none, divalent linkage group; Ra = H, substituent; n = 2, 3; B = anion if n = 3 to have counter cation). The photoelec. conversion device comprises an elec. conductive support laminated with a photosensitive layer containing the above dye-adsorbed semiconductor. The solar cell has the above photoelec. conversion device, a charge-transfer layer, and a counter electrode. The solar cell shows improved durability and high photoelec. conversion efficiency.

IT **403739-15-1P**
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoelec. conversion device having photosensitive layer containing dye-adsorbed semiconductor for solar cell)

RN 403739-15-1 CAPLUS

CN Boronic acid, [[(3-borono-4-oxo-2,5-cyclohexadien-1-ylidene)methylene]bis(6-hydroxy-3,1-phenylene)]bis- (9CI) (CA INDEX NAME)





IC ICM H01M014-00
ICS H01L031-04

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 41, 76

ST methine dye adsorption semiconductor photoelec conversion device; azomethine dye adsorption semiconductor solar cell; azo dye adsorption semiconductor solar **battery**; triphenylmethane dye adsorption semiconductor photoelec device; acridine dye adsorption semiconductor solar cell

IT Photoelectric devices
Semiconductor materials
Solar cells

(photoelec. conversion device having photosensitive layer containing dye-adsorbed semiconductor for solar cell)

IT 403739-12-8P 403739-13-9P 403739-14-0P **403739-15-1P**
403739-16-2P 403739-17-3P 403845-21-6P 403845-28-3P 403847-96-1P
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoelec. conversion device having photosensitive layer containing dye-adsorbed semiconductor for solar cell)

IT 403845-23-8 403845-24-9 403845-25-0 403845-27-2
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(photoelec. conversion device having photosensitive layer containing dye-adsorbed semiconductor for solar cell)

IT 159614-36-5P 403739-20-8P 403739-22-0P 403739-24-2P 403739-26-4P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(photoelec. conversion device having photosensitive layer containing dye-adsorbed semiconductor for solar cell)

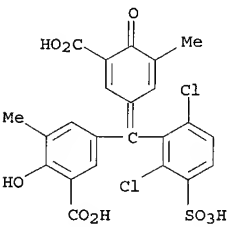
IT 121-43-7, Trimethoxyborane 149-73-5, Trimethyl orthoformate 606-46-2
1762-95-4, Ammonium thiocyanate 2892-51-5 10049-08-8, Ruthenium chloride 18511-71-2 403739-18-4 403739-19-5 403739-21-9
403739-23-1 403739-25-3 403739-27-5 403739-28-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(photoelec. conversion device having photosensitive layer containing dye-adsorbed semiconductor for solar cell)

L16 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:38081 CAPLUS
DOCUMENT NUMBER: 136:283684
TITLE: A study on water treatment induced by plasma with contact glow discharge electrolysis
AUTHOR(S): Hu, Zhong-ai; Wang, Xiao-yan; Gao, Jin-zhang; Deng, Hua-ling; Hou, Jing-guo; Lu, Xiao-quan; Kang, Jing-wan
CORPORATE SOURCE: Department of Chemistry, Northwest Normal University, Lanzhou, 730070, Peop. Rep. China
SOURCE: Plasma Science & Technology (Hefei, China) (2001), 3(5), 927-932
CODEN: PSTHC3; ISSN: 1009-0630
PUBLISHER: Chinese Academy of Sciences, Institute of Plasma Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oxidative degradation of 8 dyes induced by plasma in aqueous solution by contact glow discharge electrolysis (CGDE) was studied. These 8 dyes were degraded by CGDE, where Fe2+ was used to improve dye degradation efficiency.

IT **1667-99-8**, Chrome Azurol S
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)

RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 60-2 (Waste Treatment and Disposal)
Section cross-reference(s): 41, 52, 67
ST contact glow discharge electrolysis wastewater treatment; dye oxidn contact glow discharge electrolysis; ferrous iron catalyzed oxidn dye wastewater treatment
IT Plasma
(contact glow discharge electrolysis; voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)
IT Wastewater treatment
(decolorization; voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)
IT Wastewater treatment
(**electrochem.**, contact glow discharge; voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)
IT Oxidation catalysts
(ferrous iron; voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)
IT Wastewater treatment
(oxidation, iron catalyzed electrolysis; voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)
IT Dyes
(voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)
IT 15438-31-0, uses

RL: CAT (Catalyst use); USES (Uses)
(voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)

IT 65-61-2, Acridine orange 81-88-9, Rhodamine B 547-58-0, Methyl orange **1667-99-8**, Chrome Azurol S 6416-66-6, Weak Acid Brilliant Red B 14254-17-2 28983-56-4, Methyl blue 406675-78-3, Weak Acid Flavine G
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(voltage and reaction time effect on ferrous iron catalyzed oxidation of wastewater dyes by plasma using contact glow discharge electrolysis)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:900566 CAPLUS
DOCUMENT NUMBER: 134:58752
TITLE: Synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants
INVENTOR(S): Petrie, Mark A.; Bottaro, Jeffrey C.; Penwell, Paul E.; Bomberger, David C.; Schmitt, Robert J.
PATENT ASSIGNEE(S): SRI International, USA
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000076913	A1	20001221	WO 2000-US16137	20000612
W: CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6228338	B1	20010508	US 1999-334359	19990616
US 2001038821	A1	20011108	US 2001-823379	20010329
US 6617064	B2	20030909		

PRIORITY APPLN. INFO.: US 1999-334359 A 19990616

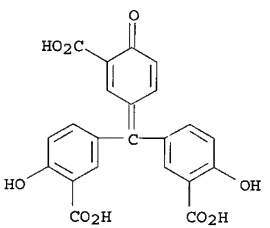
AB α-AlH3 (as the α polymorph) is prepared by: (1) reacting an alkali metal hydride with AlCl3 in di-Et ether solution to form an initial AlH3 product, (2) filtering off the alkali metal chloride byproduct, (3) adding excess toluene to the filtrate from step (2), (4) heating and distilling the di-Et ether-toluene solution to reduce the amount of di-Et ether, until a precipitate is formed, (5) isolating the precipitate, (6) adding the precipitate to an acidic solution to dissolve and remove other impurities. and (7) separating α-AlH3 from the acidic solution The acidic solution in step (6) contains a stabilizing agent for α-AlH3 (e.g., aluminon, 8-hydroxyquinoline, catechol, or an electron donor or electron acceptor). AlH3 has application as an energetic component in rocket propellants, a reducing

agent in organic synthesis, a hydride donor for polymerization catalysts, as a hydrogen storage material (especially in an alkaline **battery**), and a hydrogen source for fuel cells.

IT **569-58-4**, Aluminon
RL: NUU (Other use, unclassified); USES (Uses)
(stabilizer; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)

RN 569-58-4 CAPLUS

CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy-, triammonium salt (9CI) (CA INDEX NAME)



●3 NH_3

IC ICM C01B006-06

CC 50-1 (Propellants and Explosives)
Section cross-reference(s): 21, 35, 49, 52

ST aluminum hydride synthesis propellant fuel; stabilizer aluminum hydride manuf; hydrogen source aluminum hydride manuf

IT Electron acceptors
Electron donors
(stabilizers; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)

IT Fuel cells
(synthesis and stabilization of α-polymorph of aluminum hydride as hydrogen source for fuel cells and alkali storage **batteries**)

IT Polymerization catalysts
(synthesis and stabilization of α-polymorph of aluminum hydride for use in hydride donor in polymerization catalysts)

IT Reducing agents
(synthesis and stabilization of α-polymorph of aluminum hydride for use in hydride donors for organic redns.)

IT Polymorphism (crystal)
Propellants (fuels)
(synthesis and stabilization of α-polymorph of aluminum hydride

for use in rocket propellants)
IT 7446-70-0, Aluminum chloride (AlCl3), reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(aluminum source, reduction of; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)
IT 7647-01-0, Hydrogen chloride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(aqueous, purification solvent; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)
IT 13770-96-2, Sodium aluminum hydride 16853-85-3, Lithium aluminum hydride 16940-66-2, Sodium borohydride 16949-15-8, Lithium borohydride
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydride source; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)
IT 1333-74-0, Hydrogen, uses
RL: FMU (Formation, unclassified); NUU (Other use, unclassified); FORM (Formation, nonpreparative); USES (Uses)
(in-situ formation of, aluminum hydride source for; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)
IT 7784-21-6P, Aluminum hydride
RL: CAT (Catalyst use); IMF (Industrial manufacture); NUU (Other use, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(manufacture of; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)
IT 60-29-7, Diethyl ether, uses 108-88-3, Toluene, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)
IT 118-75-2, Tetrachlorobenzoquinone, uses 120-80-9, Catechol, uses 122-39-4, Diphenylamine, uses 148-24-3, 8-Hydroxyquinoline, uses 569-58-4, Aluminon 670-54-2, Tetracyanoethylene, uses 996-70-3, Tetrakis(dimethylamino)ethylene 1518-16-7 31366-25-3, Tetrathiafulvalene
RL: NUU (Other use, unclassified); USES (Uses)
(stabilizer; synthesis and stabilization of α-polymorph of aluminum hydride for use in rocket propellants)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

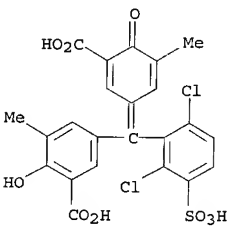
L16 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:405240 CAPLUS
DOCUMENT NUMBER: 131:164752
TITLE: Microanalysis of Al in Pb-Sn-Ca-Al alloy
AUTHOR(S): Liu, Haifeng; Cao, Ying; Chen, Changping
CORPORATE SOURCE: Wuhan Institute of Material Protection, Wuhan, 430030, Peop. Rep. China
SOURCE: Cailiao Baohu (1999), 32(5), 17-18
CODEN: CAIBE3; ISSN: 1001-1560
PUBLISHER: Cailiao Baohu Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB The alloy sample is dissolved in hot HNO3 followed by adding HClO4, heating to fume, and precipitating Pb with Na2SO4. Al content in Pb-Sn-Ca-Al alloy used in **battery** manufacture was determined by spectrophotometry using chrome azurol S in pH 5.1 solution at 546.2 nm. Impurities (such as Cu, Fe, etc.) were masked by Zn-EDTA.

IT **1667-99-8**, Chrome azurol S
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(microanal. of Al in Pb-Sn-Ca-Al alloy by spectrophotometry)

RN 1667-99-8 CAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 79-6 (Inorganic Analytical Chemistry)
Section cross-reference(s): 56

ST aluminum calcium lead tin microanalysis spectrophotometry

IT Spectrophotometry
(microanal. of Al in Pb-Sn-Ca-Al alloy by spectrophotometry)

IT 89741-43-5
RL: AMX (Analytical matrix); ANST (Analytical study)
(microanal. of Al in Pb-Sn-Ca-Al alloy by spectrophotometry)

IT **1667-99-8**, Chrome azurol S
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(microanal. of Al in Pb-Sn-Ca-Al alloy by spectrophotometry)

IT 60-00-4, EDTA, analysis 7439-89-6, Iron, analysis 7440-50-8, Copper, analysis 7440-66-6, Zinc, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(microanal. of Al in Pb-Sn-Ca-Al alloy by spectrophotometry)

L16 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:745615 CAPLUS
DOCUMENT NUMBER: 130:32393
TITLE: Determination of europium(II) in the presence of Chrome Azurol S by alternating-current polarography

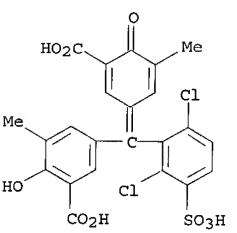
AUTHOR(S): Levitskaya, G. D.; Pyastka, L. O.; Dubas, L. Z.
CORPORATE SOURCE: Department of Chemistry, Franko State University, Lvov, 290005, Ukraine
SOURCE: Journal of Analytical Chemistry (Translation of Zhurnal Analiticheskoi Khimii) (1998), 53(11), 1024-1027
CODEN: JACTE2; ISSN: 1061-9348
PUBLISHER: MAIK Nauka/Interperiodica Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The behavior of Eu(III) was studied by alternating-current polarog. in the presence of the triphenylmethane dye Chrome Azurol S (CAS) in an NH3 buffer solution in a wide range of pH and concns. The mechanism of CAS reduction at a dropping Hg electrode was suggested. The studies performed by the saturation curve method and by the method of isomolar series indicate that the ratio of components in the complex formed is 1:1. The determination limit for Eu(III) in a 0.1M NH4Cl solution (pH 7.0) in the presence of CAS is 2.2 + 10-6M.

IT **1667-99-8**, Chrome Azurol S
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (determination of europium(II) in the presence of Chrome Azurol S by alternating-current polarog.)

RN 1667-99-8 CAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

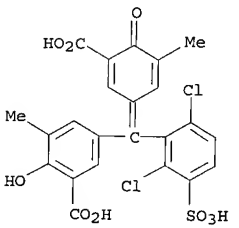
CC 79-6 (Inorganic Analytical Chemistry)
Section cross-reference(s): 72

ST europium detn alternating current polarog; Chrome Azurol S reagent
europium detn polarog

IT Polarography
(a.c.; determination of europium(II) in the presence of Chrome Azurol S by

alternating-current polarog.)
IT Reduction, **electrochemical**
(of Chrome Azurol S at dropping Hg electrode)
IT 7440-53-1, Europium, analysis
RL: ANT (Analyte); ANST (Analytical study)
(determination of europium(II) in the presence of Chrome Azurol S by alternating-current polarog.)
IT **1667-99-8**, Chrome Azurol S
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(determination of europium(II) in the presence of Chrome Azurol S by alternating-current polarog.)
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:246918 CAPLUS
DOCUMENT NUMBER: 124:327154
TITLE: The use of triarylmethane dyes on aluminum
AUTHOR(S): Tsangaraki-Kaplanoglou, I.; Moshohoritou, R.; Kallithrakas-Kontos, N.
CORPORATE SOURCE: Dept. of Sciences, Technical University of Crete, Chania, 73100, Greece
SOURCE: Journal of the Society of Dyers and Colourists (1996), 112(4), 127-31
CODEN: JSDCAA; ISSN: 0037-9859
PUBLISHER: Society of Dyers and Colourists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Coatings were formed on the surface of unanodized aluminum electrolytically treated in an aqueous solution of tin sulfate and a triarylmethane dye. The coatings produced had a good decorative appearance, good adhesion and were 3-5 μm thick. The colored films had excellent light fastness but poor resistance to corrosion resistance. The dyes showing the most promise for this application were Cl Acid Blue 9 and Cl Acid Green 5. These dyes interfered in the current flow, in so doing modifying the surface topog. and the semiconductive properties of the superficial aluminum oxide film formed during the coloring treatment. The dye fragmentation, cyclization and dimerization products derived during the electrolytic treatment gave organotin compds.
IT **1667-99-8**, C.I. Mordant Blue 29
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(electrolytically coloring of aluminum in aqueous solution of tin sulfate and
triarylmethane dye using a.c.)
RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 72-2 (Electrochemistry)
Section cross-reference(s): 41, 56
ST electrocoloring aluminum tin sulfate triarylmethane dye; alternating current coloring aluminum tin dye
IT Dyeing
(electrolytically coloring of aluminum in aqueous solution of tin sulfate and
triarylmethane dye using a.c.)
IT Anodization
(in electrolytically coloring of aluminum in aqueous solution of tin sulfate and triarylmethane dye using a.c.)
IT Electrodeposition and Electroplating
(of tin in electrolytically coloring of aluminum in aqueous solution of tin sulfate and triarylmethane dye using a.c.)
IT Dyes
(triarylmethane; electrolytically coloring of aluminum in aqueous solution of
tin sulfate and triarylmethane dye using a.c.)
IT Electric current
(alternating, electrolytically coloring of aluminum in aqueous solution of tin
sulfate and triarylmethane dye using a.c.)
IT Coloring
(**electrochem.**, of aluminum in aqueous solution of tin sulfate and triarylmethane dye using a.c.)
IT 7440-31-5, Tin, properties
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(deposition in electrolytically coloring of aluminum in aqueous solution of tin sulfate and triarylmethane dye using a.c.)
IT 7429-90-5, Aluminum, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(electrolytically coloring in aqueous solution of tin sulfate and triarylmethane dye using a.c.)

IT 129-17-9, C.I. Acid Blue 1 **1667-99-8**, C.I. Mordant Blue 29 1694-09-3, C.I. Acid Violet 49 3844-45-9 5141-20-8, C.I. Acid Green 5 6104-59-2, C.I. Acid Blue 83 10031-62-6, Tin sulfate 67763-24-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(electrolytically coloring of aluminum in aqueous solution of tin sulfate and triarylmethane dye using a.c.)

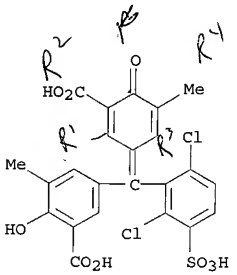
IT 1344-28-1, Alumina, properties
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(formation in electrolytically coloring of aluminum in aqueous solution of tin sulfate and triarylmethane dye using a.c.)

L16 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:547774 CAPLUS
DOCUMENT NUMBER: 123:61297
TITLE: Secondary **batteries** with nonaqueous electrolytes
INVENTOR(S): Tanaka, Mitsutoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan; UBE Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07065863	A2	19950310	JP 1993-209669	19930824
JP 3475449	B2	20031208		
JP 2004006410	A2	20040108	JP 2003-283639	20030731

PRIORITY APPLN. INFO.: JP 1993-209669 A3 19930824
GI For diagram(s), see printed CA Issue.
AB The **batteries** contain I [Z1-2 = groups forming (substituted) N-containing heterocycle; Z1 and Z2 may form (substituted) N-containing heterocycle], cyclic tetrapyrroles, II [Z3 = Z1; Z4 = (substituted) aromatic ring; X = H, OH, SH, amino, sulfo (salt), phospho (salt), arseno (salt), carboxy (salt)], III [Z5-6 = Z4; Y = N, CH; X1-2 = OH, hydroxy salt, SH, sulfo (salt), carboxy (salt), arseno (salt), phospho (salt)], IV (Z7-9 = Z4), amino polyacids, quinoline, or quinoline derivs. Marked drop in capacity is prevented.
IT **1667-99-8**
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. secondary **batteries** containing)
RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-

ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

IC ICM H01M010-40
ICS H01M004-02
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST **battery** nonaq additive nitrogen heterocycle
IT **Batteries**, secondary
(nonaq.; containing nitrogen-containing additives)
IT 91-22-5, Quinoline, uses 885-04-1 979-88-4 1571-36-4, Stilbazo
1667-99-8 2113-70-4 3547-38-4 22243-63-6 28048-33-1
36951-72-1 40386-51-4 53611-17-9 53744-42-6 69458-20-4
87035-60-7 91599-24-5 132097-27-9 132097-29-1 143205-66-7
164581-17-3 164581-18-4 164581-19-5 164581-20-8 164581-21-9
164581-22-0 164581-23-1 164581-24-2 164581-25-3 164581-26-4
164581-27-5 164581-28-6 164581-29-7 164581-30-0 164581-31-1
164581-32-2 164581-33-3 164581-34-4
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. secondary **batteries** containing)

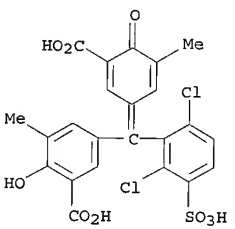
L16 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:463606 CAPLUS
DOCUMENT NUMBER: 123:22946
TITLE: New nanocomposites of polypyrrole including γ-Fe2O3 particles: electrical and magnetic characterizations
AUTHOR(S): Jarjayes, O.; Fries, P. H.; Bidan, G.
CORPORATE SOURCE: Department of de Recherche Fondamentale sur la Matiere Condensee, CEA, Grenoble, 38054, Fr.
SOURCE: Synthetic Metals (1995), 69(1-3), 343-4
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors present the elec. and magnetic characterizations of **electrochem.** films of polypyrrole including γ-Fe2O3 grains of a few nanometers in size. The magnetization of one of this composite material (PPy-FF/Cit) was measured at several temps. as a function of the external magnetic field H. The theor. treatment of the data shows that the grains in the polymer behave as independent monodomains and are fairly dispersed. The particle size distributions are nearly the same in the polymer and in the ferrofluid solution used for the **electrochem.** inclusion. These results are also consistent with TEM expts.

IT **1667-99-8**, Chrome Azurol S
RL: NUU (Other use, unclassified); USES (Uses)
(chelating agent for including γ-Fe2O3 particles in polypyrrole matrix)

RN 1667-99-8 CAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 76-1 (Electric Phenomena)
Section cross-reference(s): 36, 77

ST polypyrrole iron oxide composite cond magnetization

IT Electric conductivity and conduction
Magnetic induction and Magnetization
(elec. and magnetic characterizations of composite **electrochem** . polypyrrole films with included nanometer γ-Fe2O3 particles)

IT 68-04-2, Sodium citrate **1667-99-8**, Chrome Azurol S 3737-95-9, Calconcarboxylic acid
RL: NUU (Other use, unclassified); USES (Uses)
(chelating agent for including γ-Fe2O3 particles in polypyrrole matrix)

IT 1309-37-1, Ferric oxide, properties 30604-81-0, Polypyrrole
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(elec. and magnetic characterizations of composite **electrochem**

. polypyrrole films with included nanometer γ-Fe2O3 particles)

L16 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN

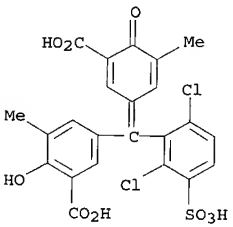
ACCESSION NUMBER: 1994:181990 CAPLUS
DOCUMENT NUMBER: 120:181990
TITLE: Studies on **electrochemical** behavior of some light lanthanide ions in nonaqueous solution, flow injection determination and photochemical characterization of heavy metal ion chelate eight coordinated complexes. (Part 2). Determination of some light lanthanide ions by flow injection analysis using Chrome Azurol S in the presence of surfactant
AUTHOR(S): Kang, Sam Woo; Chang, Choo Hwan; Kim, Kwang, II; Han, Hong Seock; Cho, Kwang Hee
CORPORATE SOURCE: Dep. Chem., Han Nam Univ., Taejon, 300-791, S. Korea
SOURCE: Journal of the Korean Chemical Society (1994), 38(1), 50-4
CODEN: JKCSEZ; ISSN: 1017-2548
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB Spectrophotometric determination of some light lanthanide ions by flow injection method is described. Chrome Azurol S forms H2O soluble complex with lanthanide ions in the presence of DTAB. The absorption maximum of the complexes are from 650 nm to 655 nm and the molar absorptivities were .apprx.1.6 + 105 L mol-1 cm-1 in Tris buffer (pH 10.5). The calibration curves for Nd(III), Eu(III) and Sm(III) obtained by FIA are at 0.1-0.6 ppm and the correlation coefficient were .apprx.0.9993. The detection limits (S/N) were from 10 ppm for Nd(III) and Eu(III) to 20 ppb for Sm(III). The relative standard deviations was ±1.2% for 0.4 ppm sample. The samples throughput was .apprx.50 cm-1.

IT **1667-99-8**, Chrome Azurol S
RL: ANST (Analytical study)
(in light lanthanide determination by flow-injection spectrophotometry)

RN 1667-99-8 CAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 79-6 (Inorganic Analytical Chemistry)
ST light lanthanide detn flow injection spectrophotometry; Chrome Azurol S reagent lanthanide detn
IT Rare earth metals, analysis
RL: ANST (Analytical study)
(light, determination of, by flow-injection spectrophotometry)
IT 7440-00-8, Neodymium, analysis 7440-19-9, Samarium, analysis 7440-53-1, Europium, analysis
RL: ANT (Analyte); ANST (Analytical study)
(determination of, by flow-injection spectrophotometry)
IT 1119-94-4, Dodecyltrimethylammonium bromide **1667-99-8**, Chrome Azurol S
RL: ANST (Analytical study)
(in light lanthanide determination by flow-injection spectrophotometry)
IT 3564-17-8D, lanthanide complexes
RL: PRP (Properties)
(visible spectra of, in presence of surfactant)
IT 7440-00-8D, Neodymium, Chrome Azurol S complex 7440-19-9D, Samarium, Chrome Azurol S complex 7440-53-1D, Europium, Chrome Azurol S complex
RL: PRP (Properties)
(visible spectrum of, in presence of surfactant)

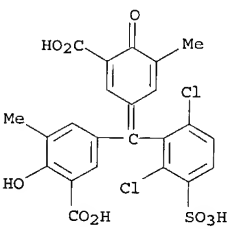
L16 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:246497 CAPLUS
DOCUMENT NUMBER: 118:246497
TITLE: Determination of traces of iron by thin-layer spectroelectrochemistry
AUTHOR(S): Xie, Qingji; Kuang, Weidong; Nie, Lihua; Yao, Shouzhuo
CORPORATE SOURCE: Department of Chemistry and Chemical Engineering, Hunan University, Changsha, Peop. Rep. China
SOURCE: Analytica Chimica Acta (1993), 276(2), 411-17
CODEN: ACACAM; ISSN: 0003-2670
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The complex of iron with Chrome Azurol S (I) was studied using a long path-length thin-layer spectroelectrochem. cell with dual working electrodes. A method for the determination of traces of iron is proposed, based on the variation in the absorbance between the oxidized and reduced state of the complex (ΔA). ΔA Was proportional to iron concentration over the range 0-3 μg mL-1. Compared with the conventional spectrophotometric determination of iron using I, the selectivity was improved because the anal. signal here depended on both the spectral and the **electrochem.** behavior of the tested species. Iron was determined in water samples by this method. A concept characterizing the sensitivity of the spectroelectrochem. signals is also presented.

IT **1667-99-8**, Chrome Azurol S
RL: ANST (Analytical study)
(in iron trace determination by thin-layer electrospectrophotometry)

RN 1667-99-8 CAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 79-6 (Inorganic Analytical Chemistry)
Section cross-reference(s): 61, 72

ST iron trace detn thin layer spectroelectrochemistry; Chrome Azurol S reagent iron detn

IT 7439-89-6, Iron, analysis
RL: ANST (Analytical study)
(determination of trace, by thin-layer electrospectrophotometry)

IT **1667-99-8**, Chrome Azurol S
RL: ANST (Analytical study)
(in iron trace determination by thin-layer electrospectrophotometry)

IT 7732-18-5, Water, analysis
RL: ANST (Analytical study)
(iron trace determination in, by thin-layer electrospectrophotometry)

IT 3564-17-8D, iron complex 7439-89-6D, Iron, Chrome Azurol S complex

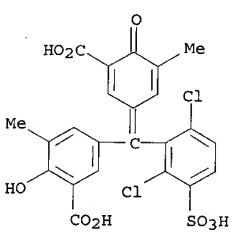
RL: PRP (Properties)
(spectra of, visible)

L16 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:619880 CAPLUS
DOCUMENT NUMBER: 111:219880
TITLE: Ion transfer of Chrome Azurol S across the liquid-liquid interface
AUTHOR(S): Sun, Zhisheng; Wang, Erkang
CORPORATE SOURCE: Changchun Inst. Appl. Chem., Acad. Sin., Changchun, Peop. Rep. China
SOURCE: Huaxue Xuebao (1989), 47(7), 644-9
CODEN: HHHPA4; ISSN: 0567-7351
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB The ion transfer of Chromazural S (CAS) across the interface of W/NB and W/1,2-DCE was studied by cyclic voltammetry and chronopotentiometry with linear current scanning. The transfer mechanism of CAS was proposed in terms of its **electrochem.** behavior and equilibrium of dissociation The exptl. data obtained for half-wave potential $\Delta 0w\phi 1/2$ and pH in W phase are in agreement with the theor. equation based on the mechanism proposed. The standard potential differences $\Delta 0w\phi 0$ and standard Gibbs energy of Chrom Azurol S across the interface were calculated

IT **1667-99-8**
RL: PRP (Properties)
(ion transfer of, across liquid-liquid interface, cyclic voltammetry and chronopotentiometry in determination of)

RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)

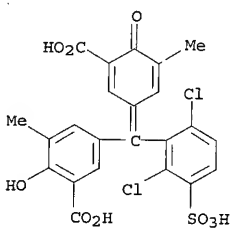


●3 Na

CC 66-2 (Surface Chemistry and Colloids)
Section cross-reference(s): 72

ST ion transfer Chrome Azurol liq interface
IT **1667-99-8**
RL: PRP (Properties)
(ion transfer of, across liquid-liquid interface, cyclic voltammetry and chronopotentiometry in determination of)

L16 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:494733 CAPLUS
DOCUMENT NUMBER: 109:94733
TITLE: Ion transfer of dyes across the liquid-liquid interface
AUTHOR(S): Sun, Zhisheng; Wang, Erkang
CORPORATE SOURCE: Changchun Inst. Appl. Chem., Chin. Acad. Sci., Jilin, 130021, Peop. Rep. China
SOURCE: Electrochimica Acta (1988), 33(5), 603-11
CODEN: ELCAAV; ISSN: 0013-4686
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The transfer behavior of both acidic and basic dyes at the interface between water and some organic solvents was studied in detail by **electrochem.** methods, and a transfer mechanism proposed for both acidic and basic dyes. The equations of interfacial half-wave potentials for both dyes were deduced in terms of the mechanism and are consistent with the exptl. data. Apparent standard transfer potentials and Gibbs energies were calculated The effect of dye structure and the nature of organic solvent on the transfer of dye are discussed in detail and a linear empirical relationship between interfacial half-wave potential and dielec. constant of organic phase is inferred for both acidic and basic dyes.
IT **1667-99-8**
RL: PRP (Properties)
(ion transfer of, across liquid-liquid interface)
RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 41-1 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 72

ST acid dye ion transfer; basic dye ion transfer; ion transfer dye liq interface

IT Ions in liquids
(dye transfer across liquid-liquid interface in)

IT Dyes
(acid, ion transfer of, across liq-liquid interface)

IT Dyes
(basic, ion transfer of, across liq-liquid interface)

IT Interface
(liquid-liquid, ion transfer of dyes across)

IT 7732-18-5, Water, uses and miscellaneous
RL: USES (Uses)
(interface with organic solvents, ion transfer of dyes across)

IT 98-95-3, Nitrobenzene, uses and miscellaneous 107-06-2, 1,2-Dichloroethane, uses and miscellaneous
RL: USES (Uses)
(interface with water, ion transfer of dyes across)

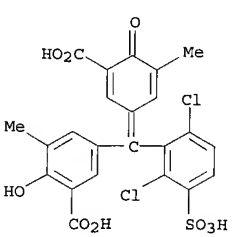
IT 76-59-5, Bromothymol blue 76-60-8, Bromocresol green 77-09-8, Phenolphthalein 81-88-9, Rhodamine B 115-39-9, Bromophenol blue 115-40-2, Bromocresol purple 115-41-3, Pyrocatechol violet 130-22-3, Alizarin red S 143-74-8, Phenol red 1141-59-9 **1667-99-8** 1787-61-7, Eriochrome black T 3564-14-5, Eriochrome blue black B 3564-18-9, Eriochrome cyanine R 3618-63-1, Eriochrome red B 16574-43-9, Bromopyrogallol red
RL: PRP (Properties)
(ion transfer of, across liquid-liquid interface)

IT 108-90-7, Chlorobenzene, uses and miscellaneous
RL: USES (Uses)
(nitrobenzene mixts., interface with water, ion transfer of dyes across)

L16 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1987:403618 CAPLUS
DOCUMENT NUMBER: 107:3618
TITLE: Cyclic voltammetry of dye-modified BLMs
AUTHOR(S): Kutnik, Jan; Tien, H. Ti
CORPORATE SOURCE: Dep. Physiol., Michigan State Univ., East Lansing, MI, 48824-1101, USA
SOURCE: Bioelectrochemistry and Bioenergetics (1986), 16(3), 435-47
CODEN: BEBEBP; ISSN: 0302-4598
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An investigation of dye-modified bilayer lipid membranes (BLMs) using the cyclic voltammetry method is described. A number of organic dyes interact on BLM, changing its **electrochem.** properties, which reflects in registered voltammograms. Elec. parameters of the dye in the BLM system were determined by measuring the current peaks and the peak potentials of obtained voltammograms. The number of charges transferred per mol. of the dye, concentration of the dye in the membrane phase and the aqueous phase/membrane phase partition coefficient were calculated using thin-layer voltammetry description. Obtained results proved that thin-layer voltammetry description is appropriate to this BLM system. Agents influencing the dye-modified BLM voltammograms were also investigated. Dependencies on lipid content of the membrane-forming solution, on pH of the bathing solution, on the dye concentration and on the presence of redox substances have been determined

IT **1667-99-8**
RL: PROC (Process)
(cyclic voltammetry of)
RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 9-7 (Biochemical Methods)
Section cross-reference(s): 6
ST bilayer lipid membrane dye voltammetry; cyclic voltammetry bilayer membrane dye
IT Phosphatidylcholines, biological studies
Phosphatidylserines
RL: BIOL (Biological study)
(bilayer lipid membrane containing, dye-modified, cyclic voltammetry of)
IT Dyes
Stains, biological
(bilayer lipid membrane modified with, cyclic voltammetry of)
IT Lipids, biological studies
RL: BIOL (Biological study)
(bilayer membranes, dye-modified, cyclic voltammetry of)
IT Staining, biological
(cyclic voltammetry in study of)
IT Partition
(of dyes)
IT Membrane, biological
(bilayer, lipid, dye-modified, cyclic voltammetry of)
IT Voltammetry
(cyclic, of dye-modified bilayer lipid membrane)
IT Voltammetry
(thin-layer, of dye-modified bilayer lipid membranes)
IT 57-88-5D, oxidized
RL: ANST (Analytical study)
(bilayer lipid membrane containing, dye-modified, cyclic voltammetry of)
IT 7775-14-6 13746-66-2 13943-58-3 27600-99-3 50-81-7, Ascorbic acid, uses and miscellaneous
RL: ANST (Analytical study)
(crystal violet-bilayer lipid membrane voltammograms response to)
IT 61-73-4, Methylene Blue 65-61-2, Acridine Orange 92-31-9, Toluidine Blue O 129-17-9 477-73-6 531-53-3, Azure A 548-62-9, Crystal Violet 569-64-2, Malachite Green 573-58-0, Congo Red 581-64-6, Thionine 632-99-5, Fuchsin Basic 633-03-4, Brilliant Green 1324-96-5 **1667-99-8** 1829-00-1, Clayton Yellow 1910-42-5, Methyl Viologen 2185-86-6, Victoria Blue R 2381-85-3, Nile Blue A 2390-59-2, Ethyl violet 2580-56-5 2650-17-1, Xylene Cyanole FF 2650-18-2, Erioglaucine 2869-83-2, Janus Green B 3087-16-9, Wool Green S 4196-99-0, Biebrich Scarlet 5141-20-8, Light Green SF 8004-87-3, Methyl Violet 2B 10127-36-3 14855-76-6 28631-66-5
RL: PROC (Process)
(cyclic voltammetry of)

L16 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:628701 CAPLUS
DOCUMENT NUMBER: 105:228701
TITLE: Fountain pens for multicolor writings
INVENTOR(S): Ishii, Koichi
PATENT ASSIGNEE(S): Pilot Pen Co., Ltd., Japan
SOURCE: Jpn. Tokkyo Koho, 7 pp.

CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61023119	B4	19860604	JP 1977-2159	19770112

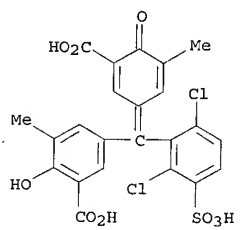
PRIORITY APPLN. INFO.: JP 1977-2159 19770112

AB A fountain pen, equipped with an ink reservoir, a pen tip, and an ink channel which has an electrode connected to the pen tip (used as another electrode), is filled with an redox dye-containing ink to give a multicolor mark by applying d.c. which may be supplied by a built-in **battery**. Thus, a mixture of 2.5 parts Na molybdophosphate and 0.5 part glycerin in 7 parts ink changed color from yellow to blue upon application of 2 V.

IT **1667-99-8**
RL: USES (Uses)
(inks containing, for writing pens equipped with **batteries**, in multicolor writings)

RN 1667-99-8 CAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

IC ICM B41M005-20
ICS B43K008-00

CC 42-12 (Coatings, Inks, and Related Products)

ST sodium molybdophosphate ink formation pen; EDTA metal complex ink pen; redox dye ink fountain pen

IT Pens
(formation, equipped with **batteries**, redox inks for, for multicolor writings)

IT Dyes

(redox, inks containing, for writing pens equipped with **batteries**, in multicolor writings)

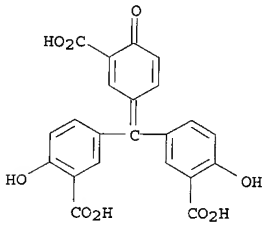
IT 64-02-8D, metal complex 115-41-3 523-44-4 573-58-0 **1667-99-8** 59088-14-1 105521-68-4 105521-69-5 105521-70-8
RL: USES (Uses)
(inks containing, for writing pens equipped with **batteries**, in multicolor writings)

L16 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:583079 CAPLUS
DOCUMENT NUMBER: 103:183079
TITLE: **Electrochemical** oxidation of coloring impurities in an aqueous suspension of manganese dioxide
AUTHOR(S): Mumina, O. A.; Matskevich, E. S.
CORPORATE SOURCE: Inst. Kolloidn. Khim. Khim. Vody im. Dumanskogo, Kiev, USSR
SOURCE: Khimiya i Tekhnologiya Vody (1985), 7(4), 35-8
CODEN: KTVODL; ISSN: 0204-3556
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB **Electrochem.** decolorization of aqueous solns. of peat exts., crystal violet (I) [548-62-9], and aluminon (II) [**569-58-4**] in the presence of MnO2 suspensions showed that the decolorization efficiency is influenced by sorption of organic mols. on the particles of MnO2. **Electrochem.** oxidation of solns. of I and II with and without MnO2 suspensions and in the presence of Cl- and SO42- showed faster oxidation in the presence of Cl-. The oxidation of II was more influenced by MnO2 than the oxidation of I. A comparison of **electrochem.** decolorization with chemical oxidation (chlorination) showed the former to be more energy and time efficient.

IT **569-58-4**
RL: REM (Removal or disposal); PROC (Process)
(removal of, from water, by **electrochem.** oxidation, in presence of manganese dioxide suspension)

RN 569-58-4 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy-, triammonium salt (9CI) (CA INDEX NAME)



●3 NH_3

CC 60-2 (Waste Treatment and Disposal)
Section cross-reference(s): 61
ST decolorization water manganese dioxide suspension; **electrochem** oxidn decolorization org water
IT Peat
(decolorization of aqueous exts. of, **electrochem.** oxidation in)
IT Chlorides, uses and miscellaneous
Sulfates, uses and miscellaneous
RL: USES (Uses)
(in **electrochem.** decolorization of waters and wastewaters)
IT Humic acids
RL: REM (Removal or disposal); PROC (Process)
(removal of, from water, by **electrochem.** oxidation, in presence of manganese dioxide suspension)
IT Water purification
(chlorination, of aqueous solns. of aluminon and crystal violet, for decolorization)
IT Water purification
(decolorization, of aqueous solns. of aluminon and crystal violet and peat exts., in presence of manganese dioxide)
IT Wastewater treatment
Water purification
(oxidation, **electrochem.**, decolorization of aqueous solns. of aluminon and peat exts. and crystal violet by, in presence of manganese dioxide)
IT 7722-84-1, uses and miscellaneous
RL: USES (Uses)
(decolorization by, of aqueous solns. of aluminon and crystal violet)
IT 1313-13-9, uses and miscellaneous
RL: USES (Uses)
(in **electrochem.** decolorization of aqueous solns. of aluminon and crystal violet and peat exts.)
IT 548-62-9 **569-58-4**
RL: REM (Removal or disposal); PROC (Process)

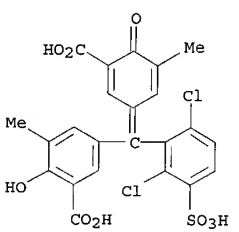
(removal of, from water, by **electrochem.** oxidation, in presence of manganese dioxide suspension)

L16 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:568563 CAPLUS
DOCUMENT NUMBER: 103:168563
TITLE: Polarography of Chrome Azurol S
AUTHOR(S): Liu, Yanmin; Yu, Zemu; Wang, Erkang
CORPORATE SOURCE: Dep. Chem., Shanxi Univ., Taiyuan, Peop. Rep. China
SOURCE: Gaodeng Xuexiao Huaxue Xuebao (1985), 6(1), 23-8
CODEN: KTHPDM; ISSN: 0251-0790
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Electroredn. of Chrome Azurol S was studied by polarog., differential pulse polarog., and cyclic voltammetry. In Britton-Robinson buffers, Chrome Azurol S is reduced in 2 diffusion-controlled, 1-electron steps over the pH range 4-11, in which the 1st step corresponds to the reduction from oxidized form to an intermediate and the 2nd step to irreversible reduction from intermediate to reduced form. The height of both steps is independent of pH. The E1/2 of the 2nd step is independent of pH, while the 1st step moves toward more neg. potential with increasing pH with the slope of -30 mV/pH (pH 2-6), and -60 mV/pH (pH 6-11). From exptl. results, a mechanism for the electroredn. of Chrome Azurol S is suggested.

IT **1667-99-8**
RL: PRP (Properties)
(polarog. of)

RN 1667-99-8 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 72-2 (Electrochemistry)
ST Chrome Azurol S **electrochem** redn; polarog Chrome Azurol S redn; voltammetry Chrome Azurol S redn

IT Reduction, **electrochemical**
(of Chrome Azurol S)
IT **1667-99-8**
RL: PRP (Properties)
(polarcg. of)

L16 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:61644 CAPLUS
DOCUMENT NUMBER: 102:61644
TITLE: Electrooxidation of crystal violet and aluminon in a manganese dioxide aqueous suspension
AUTHOR(S): Matskevich, E. S.; Mumina, O. A.; Kul'skii, L. A.
CORPORATE SOURCE: Inst. Kolloidn. Khim. Khim. Vody im. Dumanskogo, Kiev, USSR
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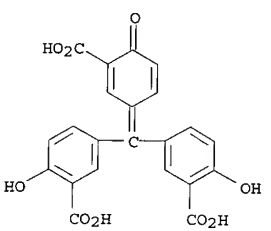
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The differences in optical d. changes during the electrooxidn. of crystal violet and aluminon were smaller in the presence of MnO_2.
IT **569-58-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**electrochem.** oxidation of, effect of manganese dioxide on)
RN 569-58-4 CAPLUS
CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy-, triammonium salt (9CI) (CA INDEX NAME)



●3 NH_3

CC 22-7 (Physical Organic Chemistry)
Section cross-reference(s): 72
ST **electrochem** oxidn crystal violet aluminon; manganese oxide electrooxidn dye aluminon
IT Oxidation, **electrochemical**

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